

## CLAIMS

What is claimed is:

1. A method for remotely downloading data to a selected one of a plurality of avionics line replaceable units (LRUs) on an aircraft, said method comprising:  
transmitting a message wirelessly to a receiver on the aircraft identifying an LRU having data to be downloaded;  
selectively switching a communication path from the identified LRU to an aircraft data services link (ADSL) dependent upon the identified LRU; and  
wirelessly downloading data from the identified LRU utilizing the selectively switched communication path.
2. A method in accordance with Claim 1 wherein the selectively switched communication path is an ARINC 429 communication path.
3. A method in accordance with Claim 2 wherein said selectively switching a communication path comprises selectively switching one of a plurality of ARINC 429 communication paths utilizing a software-controlled switch.
4. A method in accordance with Claim 1 wherein said transmitting a message wirelessly comprises transmitting the message wirelessly utilizing a wireless spread spectrum communication link.

5. A method in accordance with Claim 1 wherein said transmitting a message wirelessly further comprises transmitting an operational program configuration (OPC) file that contains criteria for automated routing.

6. A method in accordance with Claim 1 further comprising triggering said wirelessly downloading data upon a triggering condition.

7. A method in accordance with Claim 6 wherein said triggering condition is setting of a parking brake.

8. A method in accordance with Claim 6 further comprising accumulating records of wireless downloads.

9. A method in accordance with Claim 1 further comprising configuring a header file for the identified LRU to download.

10. A method in accordance with Claim 1 wherein said data wirelessly downloaded comprises operational software.

11. An apparatus for remotely downloading data to a selected one of a plurality of avionics line replaceable units (LRUs) on an aircraft, said apparatus configured to:

receive a message wirelessly transmitted to the aircraft identifying an LRU having data to be downloaded;

selectively switch a communication path to the identified LRU to an aircraft data services link (ADSL) dependent upon the identified LRU; and

wirelessly download data to the identified LRU utilizing the selectively switched communication path.

12. An apparatus in accordance with Claim 11 wherein, to selectively switch a communication path to the identified LRU to an aircraft data services link (ADSL) dependent upon the identified LRU, said apparatus is further configured to selectively switch a plurality of ARINC 429 communication paths.

13. An apparatus in accordance with Claim 12 further comprising a software-controlled switch configured to selectively switch said ARINC 429 communication paths.

14. An apparatus in accordance with Claim 11 wherein said apparatus further comprises a wireless spread spectrum transceiver configured to receive said message wirelessly.

15. An apparatus in accordance with Claim 11 further configured to receive an operational program configuration (OPC) file that contains criteria for automated routing.

16. An apparatus in accordance with Claim 11 further configured to trigger said wireless download of data upon a triggering condition.

17. An apparatus in accordance with Claim 16 configured to trigger said wireless download of data upon setting a of parking brake.

18. An apparatus in accordance with Claim 16 further configured to accumulate records of wireless downloads.

19. An apparatus in accordance with Claim 11 configured to wirelessly download operational software.

20. An apparatus for downloading data to a selected one of a plurality of avionics line replaceable units (LRUs) onboard an aircraft, said apparatus comprising:

a wireless radio transceiver;

a communication management unit server responsive to said wireless radio transceiver; and

a remotely controllable switch responsive to said communication management unit server to configure a data path between said wireless radio transceiver and a selected one of said LRUs for downloading of data.